

Application Type Renewal
Wastewater Type Sewage
Facility Type SRSTP

**NPDES PERMIT FACT SHEET
INDIVIDUAL SFTF/SRSTP**

Application No. PA0261602
APS ID 759284
Authorization ID 1100488

Applicant, Facility and Project Information

Applicant Name	<u>John P. McDermott</u>	Facility Name	<u>McDermott Residence</u>
Applicant Address	<u>7269 Union Deposit Road</u> <u>Hummelstown, PA 17036</u>	Facility Address	<u>7269 Union Deposit Road</u> <u>Hummelstown, PA 17036</u>
Applicant Contact	<u>John McDermott</u>	Facility Contact	<u>John McDermott</u>
Applicant Phone	<u></u>	Facility Phone	<u></u>
Client ID	<u>290017</u>	Site ID	<u>738255</u>
SIC Code	<u>6514</u>	Municipality	<u>South Hanover Township</u>
SIC Description	<u>Fin, Ins & Real Est - Dwelling Operators, Except Apartments</u>	County	<u>Dauphin</u>
Date Application Received	<u>December 7, 2015</u>	WQM Required	<u></u>
Date Application Accepted	<u>December 21, 2015</u>	WQM App. No.	<u></u>
Project Description	<u>Permit renewal for discharge of treated sewage</u>		

Summary of Review

1.0 General Discussion

This facts sheet supports the reissuance of an existing NPDES permit for the discharge of treated domestic sewage from a small flow treatment facility that serve an existing 3-bedroom single family residence. The system has a design capacity of 0.0004 mgd, and discharges to an unnamed tributary to Swatara Creek, which is classified for warm water fishes. A point of first use (POFU) survey conducted on September 9, 2010 confirmed the POFU for the facility is located at the discharge point. A draft permit was issued to the permittee on May 14, 2020 but was not finalized due to compliance issues at the site. A second draft permit will be issued since the first draft was issued more than a year ago. The existing permit was issued on April 25, 2011 with effective date of May 1, 2011 and expiration date of April 30, 2016. The permit was transferred to the current owner on January 18, 2012 due to ownership change. Topographical map showing discharge location is presented in attachment A.

1.1 Public Participation

DEP will publish notice of the receipt of the NPDES permit application and a tentative decision to issue the individual NPDES permit in the *Pennsylvania Bulletin* in accordance with 25 Pa. Code § 92a.82. Upon publication in the *Pennsylvania Bulletin*, DEP will accept written comments from interested persons for a 30-day period (which may be extended for one additional 15-day period at DEP's discretion), which will be considered in making a final decision on the application. Any person may request or petition for a public hearing with respect to the application. A public hearing may be held if DEP determines that there is significant public interest in holding a hearing. If a hearing is held, notice of the hearing will be published in the *Pennsylvania Bulletin* at least 30 days prior to the hearing and in at least one newspaper of general circulation within the geographical area of the discharge.

1.2 Changes to Existing Permit

Approve	Deny	Signatures	Date
X		<i>J. Pascal Kwedza</i> J. Pascal Kwedza, P.E. / Environmental Engineer	May 30, 2021
X		Daniel Martin, P.E./ Environmental Engineer Manager	June 2, 2021

Summary of Review

Limits will be annual averages instead of the monthly averages in the existing permit. There will be no more seasonal limit for Fecal Coliform for consistency with DEPs Standard Operating Procedure (SOP) for the Clean Water Program SOP No. BPNPSM-PMT-003 version 1.8. Instantaneous maximum is added for Fecal Coliform

1.3 Existing Limits

DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
	Concentrations mg/l				
Discharge Parameter	Average Monthly	Maximum Daily	Inst. Maximum	Monitoring Frequency	Sample Type
Flow (mgd)	Report	Report	XXX	2/year	Estimate
pH (S.U.)	From 6.0 to 9.0 inclusive			Upon request	Grab
Total Suspended Solids	30	XXX	60	2/year	Grab
CBOD ₅	25	XXX	50	2/year	Grab
Fecal Coliform (5/1 to 9/30)	200	XXX	XXX	2/year	Grab
Fecal Coliform (10/1 to 4/30)	2000	XXX	XXX	2/year	Grab

1.4 Treatment Facility

The plant consists of a two-compartment 1000-gallon septic tank, effluent filter, STB-650 Ecoflo peat filter, a 300-gallon dosing tank and UV for disinfection approved under WQM No. 2210402 and Planning Code No. A3-22930-179-3S.

1.5 Streamflows:

Streamflows for the water quality analysis were determined by correlating with the yield of USGS gauging station No. 01573560 on Swatara Creek near Hershey. The Q₇₋₁₀ and drainage area at the gage is 67.7ft³/s and 483mi² respectively. The resulting yields are as follows:

- $Q_{7-10} = (67.7\text{ft}^3/\text{s})/483 \text{ mi}^2 = 0.14\text{ft}^3/\text{s}/ \text{mi}^2$
- $Q_{30-10} / Q_{7-10} = 0.89$
- $Q_{1-10} / Q_{7-10} = 1.23$

The drainage area at discharge calculated by streamStats = 0.164 mi²

The Q₇₋₁₀ at discharge = 0.164 mi² x 0.14 ft³/s/mi² = 0.023ft³/s.

1.6 Discharge, Receiving Waters and Water Supply Information			
Outfall No.	001	Design Flow (MGD)	.0004
Latitude	40° 17' 28.89"	Longitude	-76° 41' 26.96"
Quad Name		Quad Code	
Wastewater Description: Sewage Effluent			
Receiving Waters	Unnamed Tributary of Swatara Creek	Stream Code	09502
NHD Com ID	56400881	RMI	0.33
Drainage Area	0.164	Yield (cfs/mi ²)	
Q ₇₋₁₀ Flow (cfs)	0.023	Q ₇₋₁₀ Basis	
Elevation (ft)		Slope (ft/ft)	
Watershed No.	07D	Chapter 93 Class.	Warm Water Fishes
Existing Use		Existing Use Qualifier	
Exceptions to Use		Exceptions to Criteria	
Assessment Status	Attaining Use(s)		
Cause(s) of Impairment			
Source(s) of Impairment			
TMDL Status		Name	
Background/Ambient Data		Data Source	
pH (SU)			
Temperature (°F)			
Hardness (mg/L)			
Other:			
Nearest Downstream Public Water Supply Intake	Wrightsville Borough Municipal Authority		
PWS Waters	Susquehanna River	Flow at Intake (cfs)	
PWS RMI		Distance from Outfall (mi)	36

Changes Since Last Permit Issuance: None

1.7 Water Supply Intake

The nearest water supply intake is 36 miles downstream at Wrightsville Borough, York County on the Susquehanna River by Wrightsville Borough Municipal Authority. No impact is expected from this discharge.

1.8 Compliance History

The permittee has not been submitting the required monitoring reports regularly. TSS and CBOD5 results submitted with the application are higher than the permitted limits. The facility inspection revealed the sampling location might be impacted by influence from the stream. The sampling location was relocated to a new area but TSS and CBOD5 results are still higher than permit limits. It was recommended the peat filter should be replaced. The permittee is working with providers to replace the peat filter. UV appeared to be working well. The permittee was requested to start submitting annual maintenance reports as required in the NPDES permit. It is expected that the compliance issues at the site will be addressed when the peat filter is replaced. The discharge does not appear to be having negative impact on the receiving stream currently. The permit will

be renewed as the permittee work on addressing necessary tweaks needed to bring the plant to compliance with permit requirements. The facility was inspected by the Department on 11/25/2019.

1.9 Development of Permit Limits

The existing permit require secondary treatment and monitoring requirements of 2/year. The existing limits are less stringent than the technology limits recommended in the general permit for small flow treatment facilities and DEPs Standard Operating Procedure (SOP) for the Clean Water Program SOP No. BPNPSM-PMT-003 version 1.8, but the facility is not able to meet the more stringent technology limits at this time therefore, the exiting limits and monitoring requirements will remain in the permit and revisited at the next permit cycle. The treatment system is a Septic tank/ Premier Tech's Ecoflo Peat biofilter which is capable of meeting an average monthly CBOD5 – 10 mg/L, IMAX CBOD5– 20 mg/L and average monthly TSS – 10 mg/L, IMAX TSS– 20 mg/L. but the facility is unable to consistently meet the secondary limits in the existing permit. The permittee is working with service providers to address the high TSS and CBOD in the effluent. Water quality modeling using WQM model was not conducted. UV disinfection is utilized at the site therefore, TRC limitation or monitoring is not required. An annual average limitation for fecal coliform of 200/100 mL as a geometric mean and 1000/100mL IMAX are required. The technology limit of 6.0 to 9.0 for pH shall be maintained at all time in accordance to 25 PA Code 95.2(1) with 2/year monitoring frequency. Flow estimation once a 2/year is required.

2.0 Chesapeake Bay

The facility will discharge less than 2000 gpd and is exempt from Bay nutrient evaluations and requirements.

2.1 Color Evaluation

Peat filters discharge color that is an esthetics issue for a long period of time, up to several years. To address color, the Department is requiring a streamflow to discharge ratio of at least 6:1. The ratio is 0.023:0.0006 resulting 38:1

2.2 Anti-Degradation (93.4)

The effluent limits for this discharge have been developed to ensure that existing instream water uses and the level of water quality necessary to protect the existing uses are maintained and protected. No High-Quality Waters are impacted by this discharge. No Exceptional Value Waters are impacted by this discharge.

2.3 Class A Wild Trout Fisheries

No Class A Wild Trout Fisheries are impacted by this discharge.

2.4 303d Listed Streams

The discharge is not located on a 303d listed stream.

2.5 The following conditions are listed in Part C of the permit:

- Annual Maintenance Report Requirement
- Measurement requirement of depth of septage and scum in all treatment units
- Septic & Treatment tank pumping requirement
- Chlorine Minimization
- Prohibition of Stormwater Discharges
- Collected screenings and solids Handling
- Abandonment of the treatment facility for public sewers

Proposed Effluent Limitations and Monitoring Requirements

The limitations and monitoring requirements specified below are proposed for the draft permit, and reflect the most stringent limitations amongst technology, water quality and BPJ. Instantaneous Maximum (IMAX) limits are determined using multipliers of 2 (conventional pollutants) or 2.5 (toxic pollutants). Sample frequencies and types are derived from the "NPDES Permit Writer's Manual" (362-0400-001), SOPs and/or BPJ.

Outfall 001, Effective Period: Permit Effective Date through Permit Expiration Date.

Parameter	Effluent Limitations						Monitoring Requirements	
	Mass Units (lbs/day) ⁽¹⁾		Concentrations (mg/L)				Minimum ⁽²⁾ Measurement Frequency	Required Sample Type
	Average Monthly	Average Weekly	Minimum	Annual Average	Maximum	Instant. Maximum		
Flow (MGD)	Report Annl Avg	XXX	XXX	XXX	XXX	XXX	2/year	Estimate
pH (S.U.)	XXX	XXX	6.0 Inst Min	XXX	XXX	9.0	2/year	Grab
CBOD5	XXX	XXX	XXX	25.0	XXX	50	2/year	Grab
TSS	XXX	XXX	XXX	30.0	XXX	60	2/year	Grab
Fecal Coliform (No./100 ml)	XXX	XXX	XXX	200	XXX	1000	2/year	Grab

Compliance Sampling Location: Outfall 001

Attachments

A. Topographical Map

